Applicant: Donald W. Petersen et al.

Serial No.: 09/915,997 : July 26, 2001 Filed

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Pending Claims

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A bone graft substitute composition, consisting essentially of: calcium sulfate; a mixing solution; and a plasticizing substance.

- The composition of claim 1, wherein the calcium sulfate comprises calcium sulfate 2. hemihydrate.
- The composition of claim 1, wherein the plasticizing substance comprises a 3. cellulose derivative.
- The composition of claim 1, wherein the plasticizing substance is selected from a 4. group consisting of sodium carboxymethylcellulose, methylcellulose, hydroxypropyl methyl cellulose, hydroxypropyl cellulose, ethylcellulose, hydroxyethylcellulose, and cellulose acetate butyrate.
- The composition of claim 1, wherein the plasticizing substance comprises 5. hydroxypropyl methyl cellulose.
- The composition of claim 1, wherein the plasticizing substance comprises 6. hydroxypropyl cellulose.
- The composition of claim 1, wherein the plasticizing substance comprises 7. hyaluronic acid.
- The composition of claim 1, wherein the plasticizing substance comprises 8. methylcellulose.

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9. The composition of claim 1, wherein the mixing solution is selected from a group consisting of sterile water, inorganic salt, and cationic surface active agent.

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- 10. The composition of claim 9, wherein the cationic surface active agent is selected from a group consisting of sodium chloride, phosphate buffered saline, potassium chloride, sodium sulfate, ammonium sulfate, ammonium acetate, and sodium acetate.
 - 11. The composition of claim 1, wherein the mixing solution comprises sterile water.
- 12. The composition of claim 1, wherein the composition does not comprise a polymer matrix.
 - 13. The composition of claim 1, wherein the composition does not comprise bone.
 - 14. The composition of claim 1, consisting essentially of:100 parts by weight of the calcium sulfate;about 1.5 to about 8 parts by weight of the plasticizing substance; andabout 25 to about 65 parts by weight of the mixing solution.
 - 15. The composition of claim 1, consisting essentially of:100 parts of the calcium sulfate;about 5.25 parts by weight of the plasticizing substance; andabout 33.6 parts by weight of the mixing solution.